

WHAT IS CLAIMED IS:

- 1 1. A circuit comprising:
 - 2 a PAD signal line connectable to an external host
 - 3 line;
 - 4 a keeper stage configured to hold the PAD signal line
 - 5 in a weakly held state responsive to changes in the state
 - 6 of the external host signal.
- 1 2. The circuit of claim 1 in which the weakly held state
 - 2 is the last in time state of the external signal line.
- 1 3. The circuit of claim 1 wherein the keeper stage
 - 2 comprises at least one controllable weak pull-up device and
 - 3 at least one controllable weak pull-down device.
- 1 4. The circuit of claim 3 further comprising circuitry
 - 2 configured to disable the at least one weak pull-down
 - 3 device if the weak-pull up device is enabled and to disable
 - 4 the at least one weak pull-up device if the weak pull-down
 - 5 device becomes enabled.

1 5 The circuit of claim 3 in which the control of the at
2 least one controllable weak pull-up device comprises a
3 logical NAND of a SLEEP signal and the PAD signal and the
4 control of the at least one controllable weak pull-down
5 device comprises a logical NOR of the inverted SLEEP signal
6 and the PAD signal.

1 6 The circuit of claim 1 further comprising a
2 controllable output buffer stage which is able to drive the
3 state of the PAD signal and having circuitry to enable and
4 disable the output buffer stage based upon the state of an
5 ENABLE signal.

1 7. The circuit of claim 1 further comprising a SLEEP
2 signal which can enable and disable the keeper stage.

1 8. The circuit of claim 7 further comprising controlling
2 the at least one weak pull-up and the at least one weak
3 pull-down device based upon the state of the SLEEP signal.

1 9. A method comprising:
2 sensing the state of an external signal;
3 storing the state of the external signal in a PAD
4 signal weakly held in a stored state by a keeper stage;

5 the weakly held PAD signal being responsive to changes
6 in the state of the external signal.

1 10. The method of claim 9 in which the weakly held state
2 of the PAD signal may be overcome by the external signal.

1 11. The method of claim 9 further comprising using at
2 least one controllable weak pull-up device and at least one
3 controllable weak pull-down device to implement the keeper
4 stage.

1 12. The method claim 11 further comprising disabling the at
2 least one weak pull-down device when the at least one weak-
3 pull up device is enabled, and disabling the at least one
4 weak pull-up device when the at least one weak pull-up
5 device is enabled.

1 13. The method of claim 12 further comprising controlling
2 the weak pull-up device with a logical NAND of the PAD
3 signal and a SLEEP signal, and controlling the at least one
4 weak pull-down device with a logical NOR of the inverse of
5 the SLEEP signal and PAD signal.

1 14. The method of claim 9 further comprising enabling and

1 disabling the keeper stage based upon the state of a SLEEP
2 signal.

1 15. The method of claim 13 further comprising turning on
2 and turning off the at least one weak pull-up and at least
3 one weak pull-down devices based upon the state of the
4 SLEEP signal.

1 16. The method of claim 15 further comprising implementing
2 the controllable weak pull-up device and the controllable
3 weak pull-down device with square devices in an integrated
4 circuit.

1 17. A system comprising:
2 a PAD signal line and an external signal line;
3 electronic circuitry comprising a keeper stage
4 configured to hold the PAD signal line weakly in a stored
5 state responsive to changes in the state of the external
6 signal line.

1 18. The system of claim 17 in which the weakly held PAD
2 signal state is the last in time state of the PAD signal
3 line.

1 19. The system of claim 17 wherein the keeper stage
2 comprises at least one controllable weak pull-up device and
3 at least one controllable weak pull-down device.

1 20. The system of claim 19 further comprising control
2 circuitry configured to disable the at least one
3 controllable weak pull-down device if the at least one
4 controllable weak-pull up device is enabled, and to disable
5 the at least one controllable weak-pull-up device if the at
6 least one controllable weak pull-down device becomes
7 enabled.

1 21. The system of claim 17 wherein the circuitry is
2 implemented in an integrated circuit.

1 22. The system of claim 21 wherein the controllable weak
2 pull-up device and the controllable weak pull-down device
3 are square devices.

1 23. The system of claim 20 further comprising a SLEEP
2 signal line and control circuitry configured to disable and
3 enable the keeper stage based upon the state of the SLEEP
4 signal.